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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/729,556 | 12/04/2003 | James M. Harris | SP02-139 | 2053 |

22928 7590 01/16/2008
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| EXAMINER |
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PASCAL, LESLIE C

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| ART UNIT | PAPER NUMBER |
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2613

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| MAIL DATE | DELIVERY MODE |
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01/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-----------------|---------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/729,556 | HARRIS ET AL. | |
| | Examiner | Art Unit | |
| | Leslie Pascal | 2613 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-23 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is not clear from the specification and claims how three orthogonal dimensions including space, wavelength and polarization are provided. Specifically, time and polarization in combination with the wavelength or waveband are not clearly disclosed. It appears that the applicant feels that this is so well known that he does not have to disclose it.
3. Claims 13, 17, 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suemura et al (6333800) in view of either Con-Carolis et al (2004/0042796) or Tamil et al (7272309).

In figure 29, Suemura et al teach a plurality of transmitters (1000-1031), multiplexing subsystem (1100-1103), distribution subsystem (1200-1203) and one or more selection subsystems (1300-1307, 1400-1431). Although he does not teach specifics about his receivers operating in "burst mode", it is well known to use burst mode in data communications in order to send a sequence of signals as a unit, which can be separated as a burst also. In regard to the orthogonal multiplexing, the applicant defines this as having at least two separate parameters (space, waveband and

wavelength). Figure 29 shows the space (four different lines between elements 1100 – 1103 and 1200-1203 respectively) and teaches the wavelength multiplexing. See figure 31 which teaches different wavebands. Suemura et al teach a system similar to applicant's figure 21. In regard to the speed of the selection subsystem, Suemura teaches using ON/OFF gate switches. Although he does not teach specifics about the type of switches that he uses, both Tamil et al and Con-Carolis et al teach that it is well known to use SOAs as ON/OFF gating switches in such a switching means in order to select the output that a signal is sent to. See specifically column 13, lines 35-44 and 58-63 and column 14, line 3 of Tamil et al. See also paragraph 110 of Con-Carolis et al. It would have been obvious to use fast SOAs in the system of Suemura et al in order to use high speed switches in order to communicate more information faster. In regard to claims 19-20, Suemura et al teaches space (different fibers), wavelength multiplexing/demultiplexing and waveband (figure 31, signals are output from the demultiplexer into different wavebands-this is also shown in other figures). In regard to claim 21, the applicant has never disclosed how polarization is utilized as one of the dimensions. It would appear from the applicants' arguments with regard to the polarization, that the applicant feels that this is so well known that he did not have to disclose how to provide and utilize the different polarizations. The examiner feels that this was not adequately disclosed so that one of ordinary skill in the art would know how to make and/or use the invention. But, for the sake of argument, if this were so well known that the applicant does not have to disclose it, it would have clearly been obvious in the system of Suemura et al.

4. Claims 13, 17, 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suemura et al (6333800) in view of either Con-Carolis et al (2004/0042796) or Tamil et al (7272309) and further in view of Prucnal (7035550).

Although Con-Carolis et al and Tamil et al teach nanosecond and sub nanosecond speed of the SOAs; Prucnal et al teach that it is well known for SOAs in TDM switches to operate at the picosecond level. It would have been obvious to operate the switches at picosecond level as taught by Prucnal in order to provide faster Communications.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ge et al (2002/018263) teaches fast SOAs for communication switches. See paragraphs 6, 18, 30 and 43.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leslie Pascal whose telephone number is 571-272-3032. The examiner can normally be reached on Monday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



/Leslie Pascal/
Primary Examiner
Art Unit 2613